



# **Print Shop**

## **Pollution Prevention Fact Sheet**

### **Utah Department of Environmental Quality**

*Promoting a Healthy Environment*

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Printing is a chemical-intensive industry. Disposing of hazardous and non-hazardous wastes generated by printing is expensive. Reducing waste can save companies a lot of money. The volume or toxicity of waste produced by the printing industry may be reduced through pollution prevention techniques including source reduction, recycling and product substitution.

Pollution prevention (P2) means reducing or eliminating harmful pollutants discharged or introduced to the environment. It reduces waste generation at the source by using, reusing or reclaiming waste materials.

### **Pollution prevention is good business**

While most pollution control strategies cost money, P2 saves many firms thousands of dollars in treatment and disposal costs. By reducing or eliminating waste a firm can:

- Reduce operating costs for energy, waste disposal, water and raw materials
- Protect workers, the public and the environment
- Reduce risk from spills, accidents and emergencies
- Reduce lawsuit vulnerability and improve public image

### **Trash and Recyclable Waste Paper**

Printing produces large quantities of waste paper. Reduce volume by recycling, improved operating procedures and equipment changes. Here's how:

- Recycle waste paper used in pulp, paper and paper containers
- Utilize improved start-up procedures to keep waste at a minimum
- Use improved maintenance to reduce unexpected machine downtime
- Recycle spoiled photographic film and paper by sending it to silver reclaimers

### **Waste Lubricating Fluids from Machinery**

- Lubricating fluids used in most machinery may be contaminated with hazardous materials such as lead or cadmium. If not recycled, they should be disposed of properly
- Segregate used oil from solvents or other materials
- Recycle used oil or burn for energy in accordance with applicable regulations

### **Waste Chemicals, Inks and Solvents**

Certain printing processes produce waste chemicals, inks or solvents. Reduce volume or toxicity by:

- Using silver-free films for contact operations and recovering silver that is used

- Using water-based lithographic plates or wipe-on plates
- Prolonging oxidation process bath potency by reducing air exposure
- Recovering waste solvents on-site with batch distillation
- Filling ink fountains with just enough ink for the run or shift and returning unemulsified inks to their containers.
- Recycling empty containers by purchasing ink in bulk containers that can be returned to the supplier for refilling. Recycling used and leftover inks
- Using water-based inks in gravure and flexographic printing processes
- Using electronic imaging and laser plate-making if possible.
- Using only the amount of solvent necessary to complete the cleaning task
- Using automatic cleaning equipment to promote more efficient cleaning solvent use
- Substituting less toxic solvents, such as hexane, for highly toxic aromatic solvents. Using detergent solutions instead of solvents
- Segregating spent solvents according to color and type of ink. Reusing collected waste to thin future batches of the same ink.
- Using press wipes as long as possible before discarding or laundering. Using dirty ones for the first pass, clean ones for the second
- Setting up an in-house dirty-rag cleaning operation

## **Process Wastewater**

Certain printing processes produce waste chemicals and wastewater. Reduce volume or toxicity by:

- Employing counter-current washing instead of parallel rinse systems to reduce process solution contamination and water usage. Reusing rinse water as long as possible
- Eliminating once-through cooling water for equipment and air compressors
- Using squeegees to wipe off excess liquid in a non-automated processing system
- Monitoring and accurately adding replenisher chemicals to process baths to reduce chemical waste
- Running similar jobs on the same day, or scheduling jobs using light colored inks before darker ones
- Dedicating presses for various ink colors when feasible.

Pollution prevention is everyone's responsibility. Management can demonstrate its commitment by training employees in pollution prevention techniques, encouraging employee suggestions, providing incentives for employee participation and offering resources needed to get the job done.

## **For More Information, Contact:**

Division of Solid & Hazardous Waste - (801) 538-6170  
 Environmental Hotline - 1 (800) 458-0145  
 Pollution Prevention Coordinator - (801) 536-4477  
 Small Business Assistance Hotline - 1 (800) 270-4440